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Claims

[c1] 1..A waveguide transition assembly for an antenna having a feed assembly with a spigot, comprising:
a transition assembly having a waveguide formed there through, adapted to mate with the spigot;
the transition assembly having a clamping groove formed in an outer surface and a plurality of cut-outs in the outer surface extending axially from a spigot end to the clamping groove,
a plurality of clamp screws coupled to a base of the antenna located to allow passage along the plurality of cut-outs to the clamping groove as the transition assembly is seated upon the spigot and rotated;
the clamp screws having clamp screw heads which upon entry into the clamping groove retain the transition assembly upon the spigot.

[c2] 2. The assembly of claim 1, further including an aperture in the waveguide.

[c3] 3.The assembly of claim 2, wherein the aperture is removable from the transition assembly.

[c4] 4.The assembly of claim 2, further including alignment

indicia on the transition assembly and base whereby the aperture may be aligned at a desired orientation.

[c5] 5.The assembly of claim 4, wherein the alignment indicia are grooves.

[c6] 6.The assembly of claim 1, further including a guide surface formed proximate each of the plurality of clamp screws;
the guide surfaces adapted to indicate a height at which the clamp screw heads will engage the clamp groove when the transition assembly is seated upon the spigot.

[c7] 7.The assembly of claim 1, further including an anti-vibration coating upon one of the plurality of clamping screws and the clamping groove.

[c8] 8.The assembly of claim 1, further including a groove on the feed assembly proximate the spigot and one of a gasket and an o-ring located in the groove.

[c9] 9.A waveguide transition assembly for an antenna having a feed assembly with a spigot, comprising:
a transition assembly having a waveguide with an aperture formed there through, adapted to mate with the spigot;
the transition assembly having a clamping groove formed in an outer surface of the transition assembly

and a plurality of cut-outs in the outer surface extending axially from a spigot end to the clamping groove,
a plurality of clamp screws coupled to a base of the antenna located to allow passage through the plurality of cut-outs;
the clamp screws having clamp screw heads which upon entry into the clamping groove retain the transition assembly upon the spigot;
a plurality of corresponding alignment indicia on the transition assembly and base whereby the aperture may be aligned at a desired orientation; and
a guide surface formed proximate each of the plurality of clamp screws;
the guide surface adapted to indicate a height at which the clamp screw heads will engage the clamp groove when the transition assembly is seated upon the spigot and rotated.

[c10] 10.The assembly of claim 9, wherein the alignment indicia are grooves.

[c11] 11.The assembly of claim 9, further including an anti-vibration coating upon one of the plurality of clamping screws and the clamping groove.

[c12] 12.The assembly of claim 9, further including a groove on the feed assembly proximate the spigot and one of a

gasket and an o-ring located in the groove.

[c13] 13.The assembly of claim 9, wherein the aperture is removable from the transition assembly.

[c14] 14. A method for adjusting the polarization of an antenna, comprising the steps of:
loosening clamp screws having clamp screw heads which are engaged with a clamp groove formed in a transition assembly having a waveguide with an aperture formed there through;
rotating the transition assembly until a desired polarization is reached;
tightening the clamp screws to secure the transition assembly from further rotation.

[c15] 15.The method of claim 14, wherein the transition assembly and a base of the antenna have alignment indicia and the rotation of the transition assembly is made to align the transition assembly and the base alignment indicia together.

[c16] 16..A waveguide transition assembly for an antenna having a feed assembly with a spigot, comprising:
a transition assembly having a waveguide formed there through, adapted to mate with the spigot;
the transition assembly having a clamping groove

formed in an outer surface and at least one cut-out in the outer surface extending axially from a spigot end to the clamping groove,

at least one clamp screw and at least one means for engaging coupled to a base of the antenna is located to allow passage along the at least one cut-out to the clamping groove as the transition assembly is seated upon the spigot and then rotated;

the means for engaging, upon entry into the clamping groove, retains the transition assembly upon the spigot;

the means for engaging secured by the clamp screws.

[c17] 17.The assembly of claim 16, wherein the means for engaging is one of a clamp screw head, a washer, a tab and a keyed retaining ring.

[c18] 18.The assembly of claim 16, wherein the alignment indicia are grooves.

[c19] 19.The assembly of claim 16, further including an anti-vibration coating upon one of the plurality of clamping screws and the clamping groove.

[c20] 20.The assembly of claim 16, wherein the aperture is removable from the transition assembly.